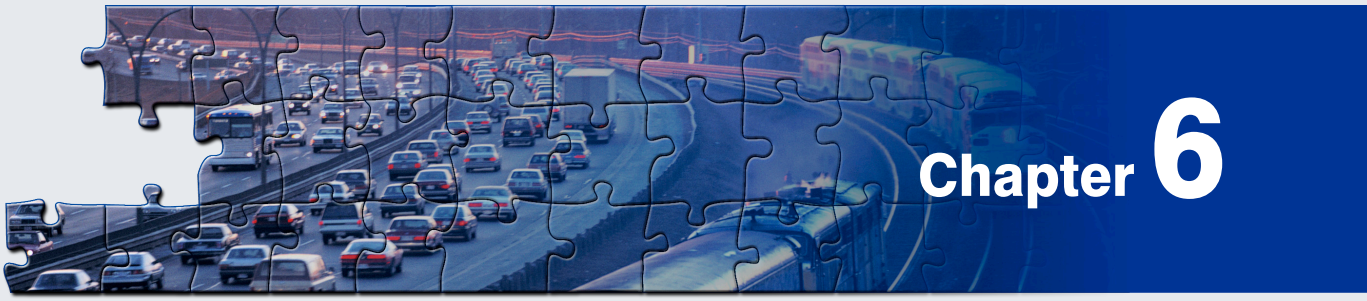


Chapter 6

Are Program and Institutional Reforms Instrumental to Achieving Our National Vision?

What Are the Barriers to Quality Transportation Facilities and Effective System Operation?

An important part of the charge by the Congress to the Commission was to develop a conceptual plan to ensure that the Nation's surface transportation needs are served, including specific recommendations regarding Federal policies and legislative changes. The Commission determined that a robust plan must go beyond platitudes and deal with specific issues of role and governance. The Commission heard testimony about serious deficiencies in the ability of current Federal surface transportation programs to deal with emerging issues that will face public and private sector providers of transportation. While these programs may once have been effective, their deficiencies are now barriers to addressing the challenges facing the system. As explained in the preceding chapters, the Commission studied the performance of the Nation's transportation system and the future demands that will be placed on that system and concluded that a complete re-examination of the means by which the system is operated and improvements funded was an important element of this study.

Therefore, the Commission has studied the structure of Federal programs, the institutions that have developed in association with intergovernmental grant relationships, and programmatic requirements. In doing so, the Commission has sought to identify specific options to address shortcomings. The findings focus on two classes of issues: those associated with

program design and those associated with project delivery processes. As a result, the Commission believes that future funding and regulatory relationships essentially must be developed on a "clean slate" and there must be radical reform to Federal programs, processes, and requirements.

In evaluating the options, the following questions reflect the approach that guided the Commission's thinking:

- Are some classes of national priorities (as reflected in the Commission's themes) best suited to State/local implementation? Are others best suited to National-scale/Federal implementation?
- Are some classes of national priorities suited to a performance management orientation at the National, State, or local levels?
- Can some classes of national priorities be implemented successfully through joint stewardship?
- Are private sector and the public sector interests sufficiently compatible to be applied to transportation needs under a common program construct?
- Are the "good practices" and policy "protections" built into existing Federal processes sufficiently adopted by the public sector to allow State and local governments more process latitude, potentially eliminating a "one size fits all" set of requirements that results in waste? Or must certain public interest protections be retained and/or streamlined at the Federal level?
- Are current programs and institutional arrangements appropriate for the multi-State and regional issues that will become more important as megaregions continue to develop?

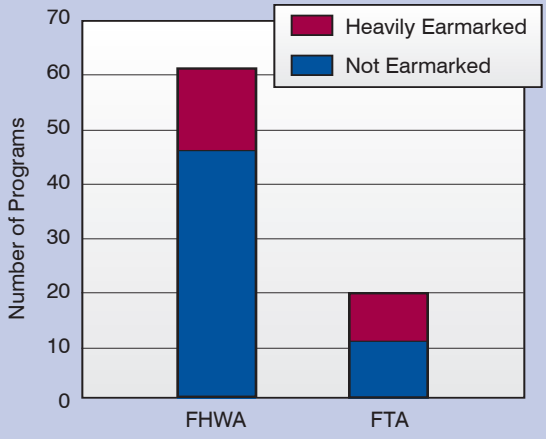
The Commission has concluded that the Federal surface transportation program should not be reauthorized in its current form. Instead, we should make a New Beginning.

The Commission has identified a number of critical policy issues that should be addressed in program reforms.

Lack of National Program Focus

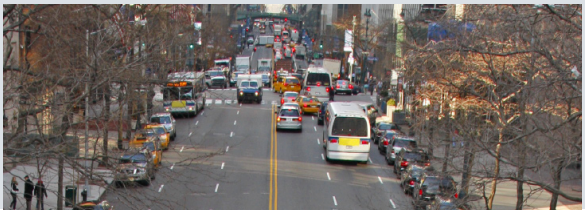
The absence of national investment priorities under our current surface transportation programs has been frequently raised, illustrated by long lists of highway and transit programs authorized in SAFETEA-LU, many of which are heavily earmarked (see Exhibit 6-1). Many such categorical programs address narrow issue areas, arguably with meritorious intent, but with little or no overarching national interest. The Commission believes that surface transportation programs

Exhibit 6-1. Highway and transit programs in SAFETEA-LU



This exhibit shows categorical highway and transit programs authorized in SAFETEA-LU, and indicates the number that were heavily earmarked.

Source: Commission Staff analysis



should be reconstructed from a "clean slate" to allow for radical program reforms. Elements considered in assessing the lack of program focus include the following.

National Surface Transportation Interests. As described in Volume I of this report, Commission has identified several priority surface transportation issues. Those issues generally cut across modes and, with the exception of safety, they are not specifically addressed by existing Federal programs. Transit and certain highway programs deal with metropolitan mobility, but not in a comprehensive way. Likewise, several highway programs address freight investment needs, but not in a way that targets potential multimodal freight improvements in the national interest.

Relative Authority and Responsibility. Commissioners believe that Federal funding should be directed to those program areas with the greatest national interest. In general, each level of government should contribute financial support for various surface transportation improvements in proportion to their relative interest compared with other levels of government. The private sector also has a greater interest in some program elements than others, especially those for which there is a revenue stream from which it can earn a return on its investment.

Not all investments within any program area are equally important. For instance, bridges on the Interstate System have a greater national interest than bridges on low-volume local roads, some parts of the National Highway System (NHS) have a greater national interest than others, and certain intercity passenger rail projects will be more cost effective than others. The scope of Federal programs should be narrowed and alternatives examined for distributing funds to those program areas with the greatest national interest.

Functional Orientation. The Commission generally supports refocusing Federal programs around functional areas (e.g., freight, metropolitan mobility, etc.) rather than modes. This proposed realignment would be most effective if State and local programs similarly were focused on functional areas rather than individual modes. Changes in this direction at the Federal level certainly could help move State and local transportation agencies to make similar changes; but, especially at the State level, significant institutional barriers would have to be overcome before transportation programs could be truly multimodal.

National Strategic Plan. Another factor contributing to the lack of program focus is the fact that there is no overarching national plan for surface transportation. Much testimony to the Commission expressed the desirability of having a "national plan," either for a single function such as freight or an overarching national strategic transportation plan. Over the years several national transportation policy statements have been developed as well as more focused freight policy statements, but these have not included specific improvement plans. The Interstate System is perhaps the only example of a national plan to construct a specific system of facilities. Once the Interstate System was completed, however, there was no national plan for maintaining its condition and performance.

The NHS designated in 1993 was quite different from the Interstate System. The NHS was simply a network of existing high-volume highways for which no design or performance standards were established. It was a way to focus Federal investment on a broader system of highways than the Interstate System; but, without design or performance standards, the general public is hardly aware the NHS exists. And, like the Interstate System, there is no national plan for maintaining the condition and performance of the NHS. There currently are no nationally designated facilities or plans for the public transit, freight rail, or passenger rail modes.

The Commission believes that surface transportation programs cannot fully contribute to economic growth, international competitiveness, or other national goals without a national investment strategy. Furthermore, the Commission believes this investment strategy can serve as a basis for allocating funds among States and metropolitan areas to maximize the return on Federal investment and achieve the greatest overall improvement in surface transportation conditions and performance.

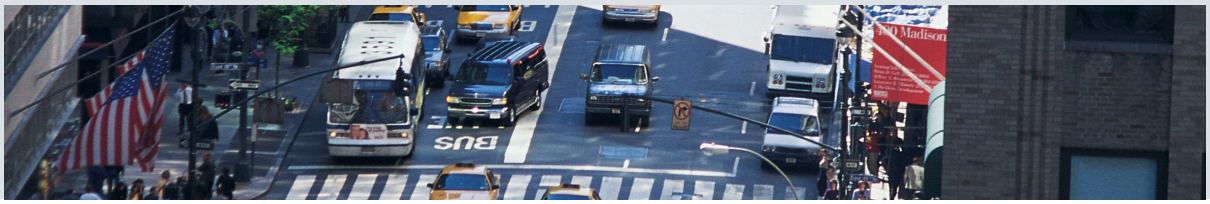
Reducing the Focus on Redistribution Across States. The trend in the last several highway bills has been to address the redistribution of Federal funding across States by assuring certain levels of "returns" to the States, bringing each State's share of the overall funding closer to its total relative contribution of user fees to the Highway Trust Fund (HTF). This return-to-source approach is contrary to focusing Federal funding on national priorities. Indeed the Equity Bonus program under SAFETEA-LU, whose sole purpose is to ensure that all States receive a minimum share of Federal-aid highway funds, is the largest Federal highway program in terms of funding, larger than even the Interstate Maintenance and NHS programs. In recent reauthorizations, a number of States have pushed to get back even larger shares of their HTF contribution.

Surface transportation investment requirements to meet national interests are not spread evenly across the States. Each State has Interstate and NHS highways that serve national interests, and each State has improvements that could be made to improve safety; but, many other improvements with a national priority are not distributed across all States, such as urban transit investments and intermodal freight facilities. National productivity and economic efficiency are enhanced when Federal monies are invested in those improvements with the greatest national return, not when large amounts are redistributed to States by some formula that bears no connection to national transportation system performance.

Ineffective Investment Decisions

A common theme expressed to the Commission was that inefficiency in the surface transportation investment decisionmaking process has caused a significant misallocation of resources. Elements that contribute to less-than-optimal investment decisions include the following:

(1) Lack of performance standards. The system performance measures that have been adopted by the U.S. Department of Transportation (USDOT) for strategic planning purposes are disconnected from the structure and function of the individual grant programs to which they theoretically are linked. The disconnect between



program structures and desired outcomes makes it difficult to hold the recipients of Federal funds accountable for improving key aspects of transportation system performance. As the old saying goes, "If it doesn't get measured it doesn't get done." Federal programs have evolved into what is now essentially a block grant model, with little accountability for specific outcomes. While considerable work has been done on techniques to measure performance, there are relatively few examples of using performance standards to build into grant relationships accountability for achieving improved levels of performance at the overall program level.

(2) Congressional earmarking. Earmarking undermines the efficient use of transportation resources on several levels. In the most basic sense, the earmarking of funds reduces the resources available to the owners and managers of transportation assets who are best positioned to assess investment priorities. Since earmarks frequently cover only a fraction of the total cost of a project, State and local recipients of earmarks frequently must divert other available Federal, State, and local funds to fully fund the project. Earmarks thus wind up leveraging other resources in a manner that is often detrimental to the overall transportation system.

Widespread earmarking tends to undermine the confidence of system users in how infrastructure investment decisions are made. Furthermore, bypassing the State and local planning process by inserting new projects or advancing lower-priority projects onto publicly vetted long-range plans inspires a certain level of cynicism among transportation stakeholders, suggesting that politics is the ultimate driver of funding decisions. Such an approach at the Federal level fosters similar behavior at the State and local levels, further undermining the credibility of the decisionmaking process. Exhibit 6-2 shows the growth in earmarks for highway projects in surface transportation authorization acts dating from the Surface Transportation Assistance Act of 1982.

Exhibit 6-2. Evolving history of highway earmark projects*

Authorization Act / Authorization Period	Number of Projects		Total Funds		Share of Total Authorized Level	
	Number	% Increase	$ Millions	% Increase	Total Authorized $ Millions	% of Authorized $
STAA (1983–86)	10	N/A	$410	N/A	$47,933	1%
STURRA (1987–91)	152	1420%	$890	117%	$68,821	1%
ISTEA (1992–97)	538	254%	$6,229	600%	$121,647	5%
TEA-21 (1998–2003)	1,850	244%	$9,360	50%	$173,881	5%
SAFETEA-LU (2005–09)	5,634	205%	$21,636	131%	$193,218	11%

* Figures in this table reflect highway earmarks only

STAA—Surface Transportation Assistance Act of 1982
STURAA—Surface Transportation and Uniform Relocation Assistance Act of 1987
ISTEA—Intermodal Surface Transportation Efficiency Act of 1991
TEA-21—Transportation Equity Act for the 21st Century
SAFETEA-LU—Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

Benefit-cost analysis (BCA) is referred to throughout this report. It is an economic analysis tool used by transportation planners and engineers to measure and compare the benefits and costs of projects or programs to the public. BCA is not intended to limit the options considered by decisionmakers, but rather to give them more information to make good decisions with transparency to the public.

BCA is applied to a multi-year period that typically incorporates much or all of the operational lifespan of the project being evaluated. The analyst quantifies the costs of the project or program (e.g., the resources expended to build, maintain, and operate the project) and the direct benefits or disbenefits of the operational project (e.g., travel time saving, vehicle operating cost savings, emissions, and fatalities and injuries avoided) and, to the extent possible, puts them into dollar terms. The analyst then converts these dollar amounts, whether realized initially or 30 years in the future, into "present value" sums—what they are worth to us today. The present value benefits are compared to the costs to see if a project generates more benefits than costs to the public, and how the project's net benefits compare to other projects competing for scarce resources. Once understood, these transportation benefits and costs can be studied to see how they would translate into equivalent, but generally not additive, net values in employment growth, higher land values, tourism, and economic development.

Although BCA has been well known to transportation professionals for many decades, many public transportation agencies do not make significant use of it today. Impediments to its broader use have included public agency concerns about added workloads, the ability of BCA to accurately measure benefits and costs, and potential conflicts when BCA results might not support a preferred outcome. Fortunately, current planning tools and requirements already generate much of the data needed to do BCA for larger projects, and new computerized tools are available for expedited analysis of smaller projects. There is also much more substance to economic analysis techniques and values than is generally understood. Where uncertainty does exist about the value of a benefit or cost, however, it can be measured and managed using risk analysis tools.

In addition to BCA, there are other economic analysis tools available to aid transportation professionals in decision making. These other tools include life-cycle cost analysis and various asset management programs incorporating economic methodologies. These tools can often be used to evaluate low-cost projects with existing agency data as an alternative to full BCA.

The proliferation of earmarking is one of the primary reasons the Commission recommends the development of a national strategic plan and the creation of an independent national commission to recommend Federal funding levels tied to that plan.

(3) Lack of requirements for investment analyses such as benefit-cost analysis. Applying standard rules of thumb or the judgment of experienced transportation professionals can provide a good starting point for identifying potential infrastructure improvements. However, implementing a broad asset management strategy or making intelligent tradeoffs among investments in different kinds of infrastructure assets requires a sound analytical process that is consistently applied. All too often, investment decisions for Different Asset categories are made within agency "stovepipes," with a focus on minimizing near term agency costs as opposed to maximizing the long-term benefits to system users and society at large.

Formal project assessments in general, and benefit-cost analyses in particular, have gotten a bad rap by some, since there are examples of such assessments being distorted to achieve a desired

outcome. However, this is more a reflection of an overly politicized process than an indictment of the analytical tools themselves. Where rigorous analyses are applied in a consistent, systematic fashion, such issues arise much less frequently.

(4) Inflexibilities in the current funding arrangement that prevent State and local transportation agencies from implementing the most effective mix of improvements. Different types of transportation system assets have fundamentally different characteristics, making it logical to concentrate experts and system management oversight activities into different organizational units. However, one weakness in this approach is that it tends to encourage "stovepiping" which makes tradeoffs across different modes very difficult. The proliferation of Federal program categories exacerbates this situation by fostering a climate in which the constituencies for various program niches develop a sense of entitlement for certain program funds and fail to consider the big picture in terms of achieving the best outcomes for the transportation system as a whole. Thus, even though there is already considerable flexibility to shift funds among programs, State and local recipients of Federal funds frequently find it difficult to exercise this flexibility within their own organizational structures.

(5) Distribution of highway funding exclusively through State highway agencies that may have different priorities than local transportation agencies. Recognizing that the owners of specific transportation assets are frequently in the best position to make decisions concerning how these assets should be managed, the Federal government has sought in the past to provide State governments with a degree of flexibility in how they utilize Federal funds to help address their transportation needs. Yet, the same type of delegation occurs less frequently between the State and local level. Local transportation agencies may be better in tune with the needs and desires of regional and local constituents than a State agency that is further removed. To the extent that regional and local governments with the technical capabilities to make informed investment decisions are overridden by State (or Federal) dictates, the potential effectiveness of infrastructure investments can be reduced.

(6) Federal regulations that limit tolling of Interstate Highways. Blanket restrictions of any kind that limit the manner in which owners of system components can manage their assets have the potential to lead to inefficient decisions. While it is important to ensure that that the national interest in the Interstate system is protected, and that owners of individual Interstate Highways do not act capriciously, Federal regulations that prohibit tolling of Interstate Highways limit State and local agencies' options for optimizing their investment and financing decisions. Such restrictions are inconsistent with other aspects of the Federal program that seek to maximize flexibility.

(7) Institutional arrangements that constrain effective intermodal planning, linkages between transportation and land-use decisions, and the effective use of operational strategies. The stove-piping phenomenon described above that impedes the effective allocation of resources among different types of transportation assets also interferes with planning and land-use decisions. Intermodal plans by their nature tend to cut across different modal areas and frequently suffer from the lack of an internal champion to advance them within those different areas. While operational strategies clearly may be beneficial within a broad transportation corridor or multimodal system, decisions on the amount of funding allocated to such activities as opposed to traditional construction activities frequently do not consider such system-wide benefits.

As transportation decision making tends to be fragmented, transportation planning and land-use decisions are also frequently disconnected. Changes in zoning can have significant impacts on future transportation system performance that are not fully considered at the time they are made.

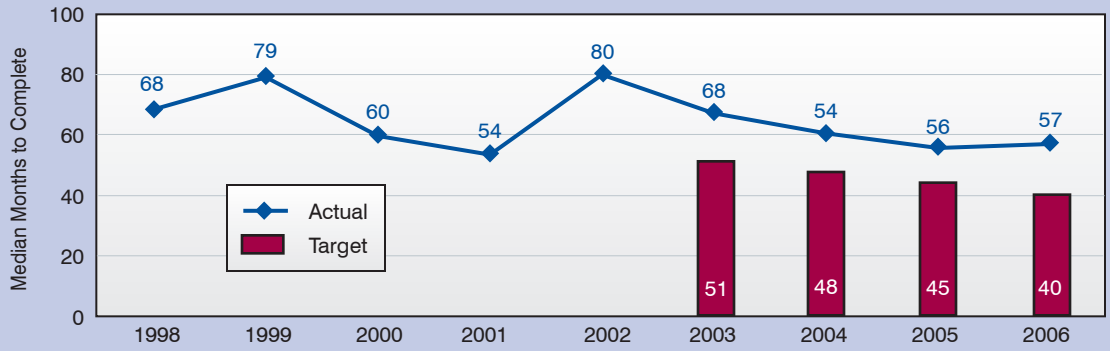
Streamlining Project Development Processes

Simply put, it takes too long and costs too much to deliver transportation projects. Information compiled by the Federal Highway Administration (FHWA) reveals that major highway projects take about 13 years to get from project initiation to completion. A large part of this time is associated with the environmental review process. Exhibit 6-3 shows trends from 1998 to 2006 in the median time to complete environmental impact statements (EISs) for highway projects. The exhibit also compares actual processing times with target completion times recently developed by FHWA. The shortest median completion time over the period was 4 ½ years, more than a year longer than FHWA's 2006 target of 40 months and even further above what ultimately is desirable. Project development activities under the Federal Transit Administration's (FTA's) New Starts program experience similar delays as shown in Exhibit 6-4. From 2002 to 2005 the average project development time was more than 10 years although it fell somewhat in 2006. In light of the rapid increase in construction costs over the past several years, such delays have become ruinously expensive (see Exhibit 6-5).

Inflation is a fact of life when making investment decisions in any business or industry. In recent years, however, the effects of inflation have been particularly severe for the transportation construction industry. Between 2004 and 2006, the cost of building highways and streets as measured by the FHWA's Price Trends for Federal-Aid Highway Construction (or Bid Price Index [BPI]) increased by approximately 43 percent. During the same period, general inflation as measured by the Consumer Price Index for All Urban Consumers (CPI-U) rose by only 7 percent.

The rapidly eroding purchasing power of the dollar for transportation construction in recent years has called particular attention to the costs of what many experts consider to be the excessively

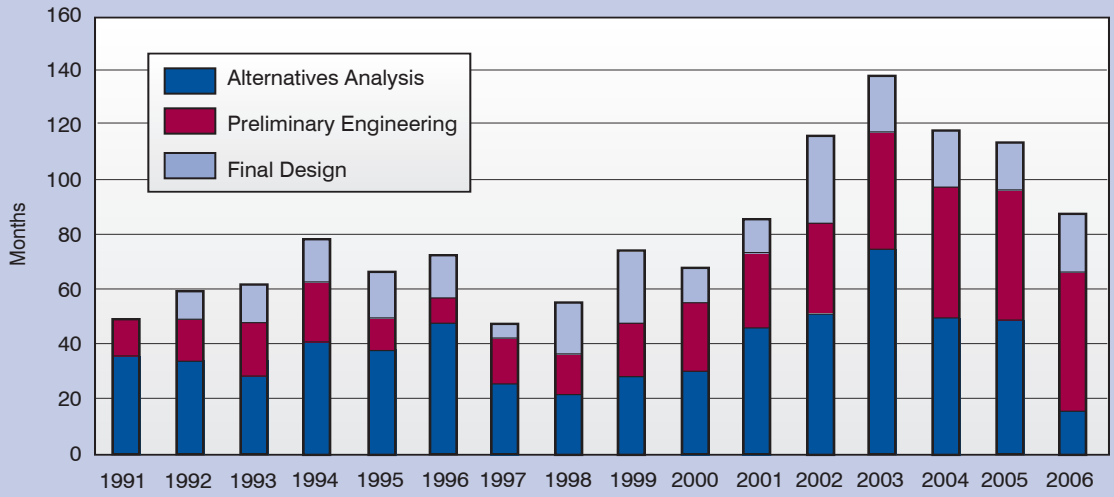
Exhibit 6-3. Environmental impact statement processing time



This exhibit shows the median time to complete EISs from 1998 to 2006 along with target completion times set for the last 4 years of that period.

Source: FHWA.

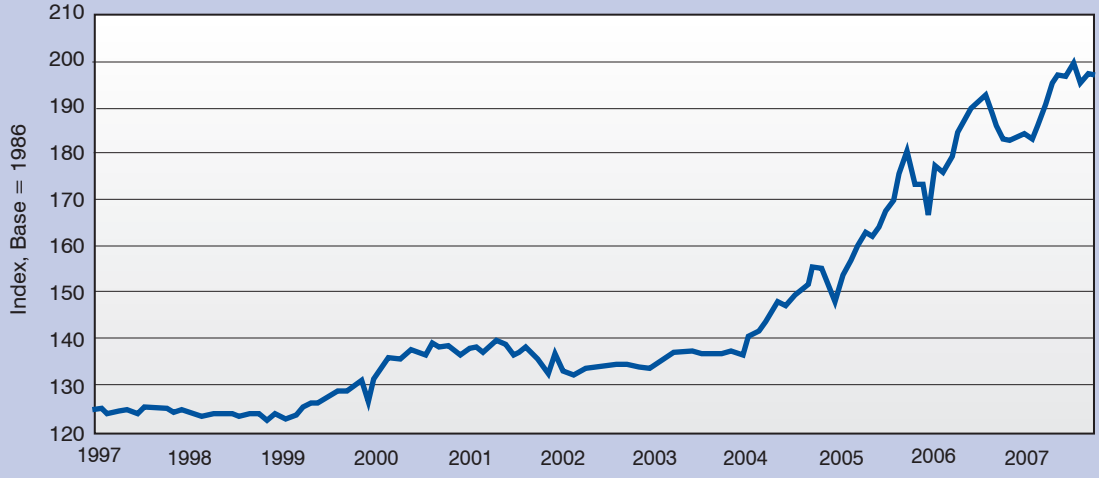
Exhibit 6-4. Time to complete the New Starts process



This exhibit shows trends in the length of time to complete alternatives analysis, preliminary engineering, and final design.

Source: FTA.

Exhibit 6-5. Highway and street construction costs, 1997–2007



This exhibit shows trends in highway and street construction since 1997.

Source: Bureau of Labor Statistics.

long time that it takes to bring a transportation project from concept to reality. For some major projects, the time needed to complete planning, environmental, and construction activities can be 14 years or longer. During this period, a project initially estimated to cost one amount can increase sharply in cost, undermining finance plans and construction schedules.

Exhibit 6-6 illustrates the impact of delay and inflation on a transportation project initially estimated to cost $500 million if construction begins at the start of 2008. The project is estimated to take 4 years to construct. Three cases are considered: construction begins immediately in 2008 and ends in 2011; construction begins in 2011 and ends in 2014; and construction begins in 2018 and ends in 2021. The rate of inflation in highway construction costs in this illustration is assumed to be 7.2 percent a year (representing the average rate of cost increase for highway projects from 2000 to 2006 as measured by the BPI).

Exhibit 6-6. Impacts of project delays on construction costs

Project Completion Year	Current Dollar Cost (inflated by the Bid Price Index)
2011	$500,000,000
2014	$616,000,000
2021	$1,002,000,000

This table illustrates the potential financial impact of project delays.

Source: Commission Staff analysis.

As is evident, the high rate of escalation in construction costs would cause the completed cost of the project at the end of 2021 to cost half a billion dollars more than it would had it been completed 10 years earlier. Allowing for 3 years of planning and environmental review beginning in 2008, the project would cost $616 million if construction starts in 2011 and completes in 2014. This latter case represents a 23 percent cost increase over the 2011 project completion date, but is still almost $400 million less than were its completion delayed until the end of 2021.

This illustration does not attempt to adjust for the differential between the rates of construction inflation measured by the BPI and general inflation measured by the CPI-U, although this adjustment would still show a doubling in real costs between 2011 and 2021. The analysis also does not factor in the costs to system users of delaying project implementation and completion. For example, for a capacity improvement on a congested roadway, each year's delay results in foregone benefits to users, who must continue to face growing levels of traffic congestion.

When bidding on multiyear projects, contractors must incorporate expected inflation in labor, equipment rental, and materials costs into their bids. If these costs were to increase unexpectedly, contractors could end up losing money on a project. Accordingly, when inflation rises suddenly, so do the risks faced by contractors, which will be factored into future bids. Thus, even temporary periods of high inflation in input prices can have lingering effects on construction costs.

It is worth noting that transportation projects with price tags of $500 million or more are becoming increasingly common. According to FHWA and FTA, there are currently 45 Federal-aid highway projects and 24 transit New Starts projects in the development process with price tags above that threshold. Even with lower-cost projects, the cumulative effects of inflation and delay on agency budgets when a multitude of projects are affected can approach the magnitudes illustrated above. Delay in the planning and review of transportation projects can thus be very expensive to the public, particularly given the Nation's recent experience where the costs of construction have risen much more rapidly than general inflation.

Exhibit 6-7 illustrates the various steps involved in the typical transportation development process, based on the experience of the Nevada DOT. While the estimated time for each phase of the process is not fully consistent with the national averages described earlier, this graphic provides a good overall summary of the many steps involved in the process.

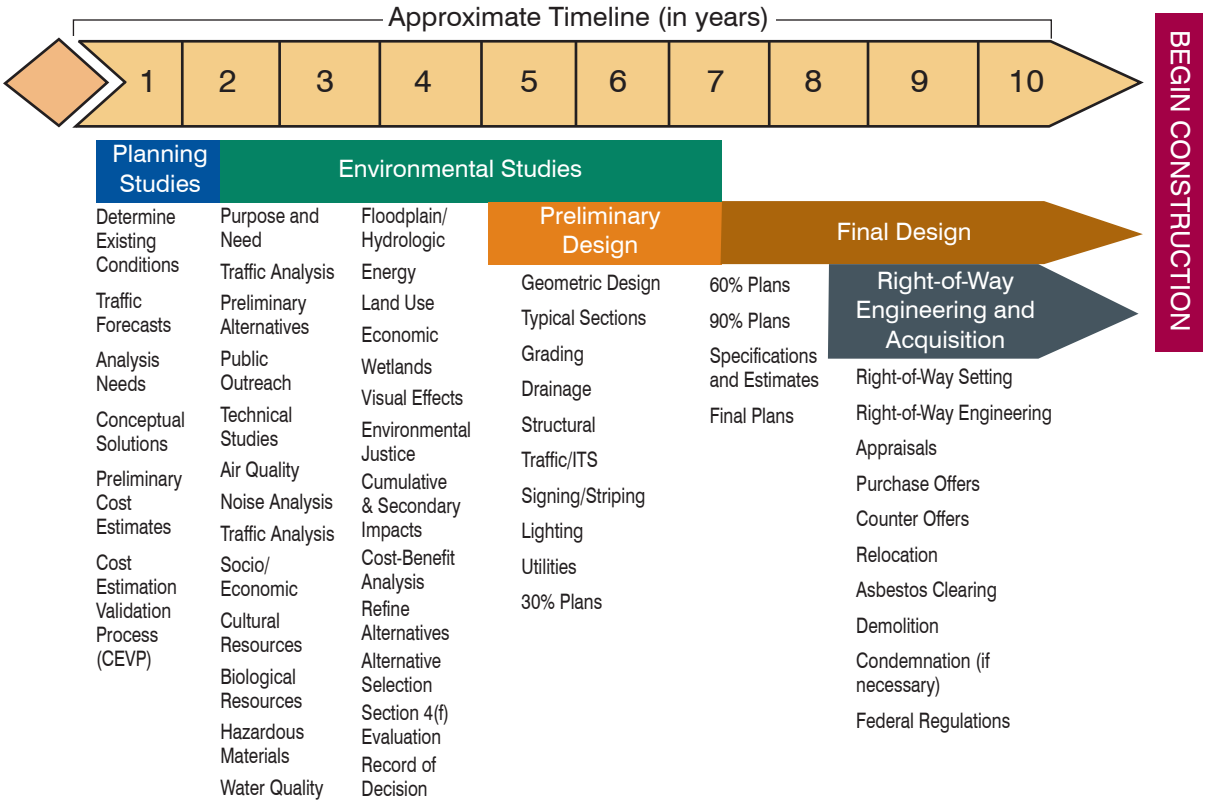
Itemized below are some of the key factors that contribute to the lengthy and costly project development process.

Uniformity in Requirements. While it is necessary to assure that investments are being made wisely, there is a risk that the time and resources needed to assess project merits can

"Time is money, and our customers deserve the courtesy of us moving forward and making decisions…we consider federal agencies to be our partners. We want them to be in the roles of interpreting regulations to help us meet our goals with project delivery. But we also want them to interpret the laws to facilitate, to help us and not to hinder."

– Susan Martinovich, Director, Nevada Department of Transportation, at the Commission's Las Vegas field hearing.

Exhibit 6-7. Typical transportation project development process



Source: Nevada DOT.

outweigh the benefits of making valid decisions. The tendency is to prescribe a one-size-fits-all approach, but what is appropriate for the largest and most complex projects, may be inappropriate for smaller, less complex proposals. To reduce overall project delivery times for major transportation projects, the time to complete environmental reviews must be shortened, in conjunction with other measures that address conventional strategies for implementing projects once they clear environmental review.

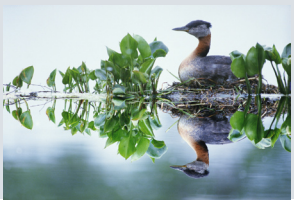
Redundancies in the NEPA Process. A substantial portion of the project delivery process, historically about 3 years and currently about 5 years, is consumed by EIS preparation. Reducing this time, in conjunction with other measures, has the potential to substantially reduce the overall project delivery time.

Practical experience with the National Environmental Policy Act (NEPA) process and the outcome of project decisions challenged in court proceedings have resulted in the following expectations:

- A minimum level of analysis is necessary in all environmental areas regardless of project issue areas
- Robust documentation is expected for all resource areas
- Significant time must be allowed to develop the required documentation
- Regulations can require an analysis of some alternatives that may not be realistic
- Fear of litigation has resulted in over-documentation
- Currently, extensive editing of the Final EIS occurs to address litigation vulnerability.

Draft EISs represent the culmination of several years of planning, public involvement, and coordination and collaboration with resource agencies, some of which could be done prior to NEPA formally beginning to ensure it is fully recognized in the NEPA process. The current process can create numerous redundancies, including the need to backtrack to revisit previously rejected alternatives or to duplicate environmental analyses that were previously endorsed during planning or scoping but not formally recognized by other agencies when performed outside the formal NEPA process. Another frequent byproduct is that repetitive additional analyses and studies for issues that have already been adequately addressed prior to the start of the NEPA process are again prepared.

Permit Process Can Add Significant Time. In addition to the delays associated with NEPA compliance, projects often are held up pending permit approvals from Federal agencies such as the U.S. Fish and Wildlife Service and the Army Corps of Engineers. Permits often languish for months on the desks of Federal officials, and it is not uncommon for Federal agencies to disagree with one another in exercising their independent oversight responsibilities.



What Reforms Could Address Problems in the Project Development Processes?

Correcting these issues can be done either through statutory or regulatory approaches. Changes would be needed in the current legal and regulatory framework for environmental reviews before any significant time-savings could be realized. Specifically, the Congress and USDOT should consider changes in the following areas:

- Provide through legislation for a simplified NEPA process that offers the equivalent of a 1040 EZ tax return for projects with few significant impacts.
- Revise Council of Environmental Quality (CEQ) regulations to allow additional factors to narrow the number of alternatives considered as "reasonable alternatives":
  - Alternatives should be appropriate for project-level (rather than planning-level) decisions
  - Alternatives should reflect community values
  - Alternatives should reflect funding realities
- Revise CEQ regulations for implementing NEPA to allow for a single EIS rather than the current requirement for a draft and final EIS.
- In parallel with revisions to CEQ regulations, FHWA would set minimum conditions for what must occur during a "robust scoping" period before publishing the Notice of Intent and formally beginning NEPA. Some requirements could include:
  - Determination on general project location
  - Determination of mode choice
  - Development of a risk management plan
- Handle impacts identification and mitigation issues early by considering them in an integrated fashion, looking at overall resources rather than in a sequential, project-by-project basis. This might involve addressing these issues at the programmatic level earlier in the planning process.
- Standardize the "risk design" approach under federal regulations so that project sponsors can proceed with design activities at risk during EIS process. The USDOT just issued similar guidance for bridge projects in wake of the Minneapolis bridge collapse.
- Require greater coordination among Federal agencies reviewing transportation project permits, including:
  - Setting time limits for review
  - Using Federal transportation funds to pay for regulatory staff to speed reviews and comply with time limits
  - Establishing a Cabinet-level appeal process where USDOT can seek redress for adverse decisions.

Program Redesign and a National Commission

We now turn from the subject of speeding project delivery to the challenge of improving how we select and finance those projects in the first place.

The 10 programs described below represent the key areas identified by the Commission for Federal participation and funding. Each description explains why a Federal role is appropriate, how performance measures and standards would be set, potential strategies for meeting performance standards, and proposed Federal funding shares for qualifying projects. These 10 new programs are intended to replace the dozens of separate highway and transit funding categories in SAFETEA-LU (see Exhibit 6-8).

An important element of many programs would be the development of national plans to accomplish key national program goals. These plans would also serve as the basis for apportioning funds to the States on a cost-to-complete basis, much as was done for initial construction of the Interstate System. National plans would be developed for the Rebuilding America; Freight Transportation; Metropolitan Mobility; Safe Mobility; Connecting America; Intercity Passenger Rail; Federal Lands; and Research, Development, and Technology programs. These plans would then be consolidated into a national strategic plan by the USDOT.

Exhibit 6-8. Refocusing the Federal Program structure

Current Federal Surface Transportation Programs	
Federal Highway Administration	62 Programs
Federal Transit Administration	20 Programs
Federal Railroad Administration	6 Programs
National Highway Traffic Safety Administration	12 Programs
Federal Motor Carrier Safety Administration	8 Programs
Total	**108 Programs**

Proposed Federal Surface Transportation Programs

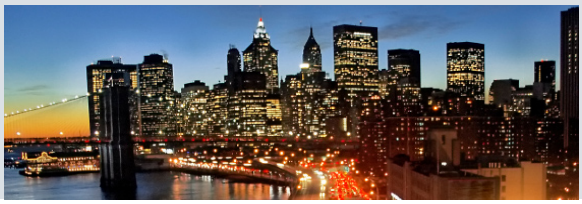
1. Rebuilding America: A National Asset Management Program
2. Freight Transportation: A Program to Enhance U.S. Global Competitiveness
3. Congestion Relief: A Program to Improve Metropolitan Mobility
4. Saving Lives: A National Safe Mobility Program
5. Connecting America: A National Access Program for Smaller Cities and Rural Areas
6. Intercity Passenger Rail: A Program to Serve High-Growth Corridors by Rail
7. Environmental Stewardship: A Transportation Investment Program to Support a Healthy Environment
8. Energy Security: A Program to Accelerate the Development of Environmentally-Friendly Replacement Fuels
9. Federal Lands: A Program for Providing Public Access
10. Research, Development, and Technology: A Coherent Transportation Research Program for the Nation

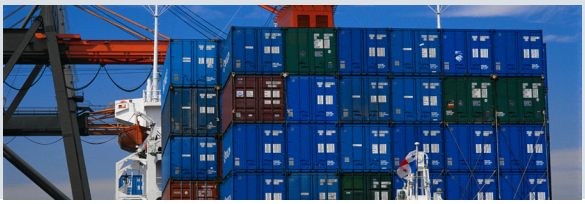
Except for the Federal Lands and Research, Development, and Technology programs, national program plans would be based on individual plans developed by each State and major metropolitan area. The USDOT, in cooperation with State and local governments, multi-State coalitions, transportation system users, and the full range of public and private stakeholders, would develop national performance standards for each applicable program area. Those standards would be closely coordinated with State environmental and energy objectives. The time frames for meeting national standards could vary for individual areas depending on local circumstances, but eventually each State and metropolitan area would be expected to meet national standards.

State and local performance standards would form the basis for State and metropolitan plans. These plans would replace the long-range and short-range plans that currently are required, but would be expected to include many of the same elements. Major differences between current plans and the plans under the new program are that major projects under the new plans would have to be shown to be cost-beneficial and plans would have to be developed to meet specific performance standards. Progress toward meeting performance standards would be measured.

The Federal government should be a full partner with the State and local governments and the private sector in meeting the significant investment requirements of this new approach. Since the plans would be the basis for apportioning funds among the States, a high degree of uniformity would be required. Only projects in the plans would be eligible for Federal funds, so plans would have to be comprehensive, especially for the near term. Since transportation needs are dynamic, plans would have to be updated, especially prior to each surface transportation reauthorization. Also, because there are overlaps among programs, plans developed for one program must be consistent with plans developed for other programs.

(1) REBUILDING AMERICA: A National Asset Management Program. Our economic and social wellbeing depends on the multi-trillion dollar investment we have made over the course of our Nation's history on transportation infrastructure and services. All levels of government and the private sector have contributed to this inheritance. Accordingly, it is clearly in the interest of all parties, starting with the Federal government and its own immense investment in this system, that we not squander this legacy through underinvestment in its preservation and maintenance. **Therefore, the first of the 10 programs proposed by the Commission would put and keep the Nation's infrastructure in a state of good repair in the most efficient and cost-effective manner possible**. In that sense, this program, "Rebuilding America," underlies and would need to be coordinated with all of the other plans proposed developed under the recommended programs. More specifically, this program would address the portions of the surface transportation network in which there is a strong Federal interest: Federal-aid Highways, including the Eisenhower System of Interstate and Defense Highways and the NHS,





major transit assets, intercity passenger and freight rail lines, and network connectors between our modes that complete the overall system.

This program cuts across several other programs, including the Freight Transportation, Metropolitan Mobility, and Connecting America programs, and would have to be closely coordinated with those programs. The USDOT, in conjunction with State and local transportation agencies, would define appropriate performance measures to assess the condition of key types of transportation facilities and equipment. The full range of stakeholders (including system owners, operators, and users) would be convened by each State Department of Transportation and public transportation agency to develop overall asset management plans. This group would use its participants' data to develop estimates of the cost to restore these facilities, putting into place best practices of capital budgeting with full consideration of life-cycle costs. These estimates would include the costs of technological and safety upgrades to be made in conjunction with these rebuilding and preservation projects, to improve the operational and safety performance of existing facilities. The USDOT would "roll-up" the individual State plans to develop a consolidated National Asset Management Plan. The investment costs developed in these plans would become the basis for future authorization requests to Congress. Once the capital budget is determined, the Federal contribution to funding each of the projects and actions of the plan would be established at 80 percent of the project costs.

To assure the maximum effectiveness of Federal capital investment support, States, local governments, and other entities accepting Federal capital support must develop, fund, and implement a program of asset maintenance and support over the useful life of the asset that conforms to nationally accepted standards and is frequently and independently audited.

Apart from demonstrating that proposed projects under this plan are cost-effective and justified, additional Federal requirements would be kept to a minimum. In most cases, environmental and other planning requirements for rehabilitating existing facilities can be met without too much burden under current law, although reconstruction activities should be executed in a manner that also conforms to the goals of other plans (e.g., Safe Mobility goals).

(2) FREIGHT TRANSPORTATION: A Program to Enhance U.S. Global Competitiveness. Interstate commerce is the historic cornerstone defining the Federal role in transportation. The Federal interest in promoting efficient interstate and international flows of goods and services has motivated it to support road, canal, and railroad building since the earliest days of the Nation; indeed, the development of the United States cannot be understood without knowledge of the Federal role in promoting and funding freight transportation infrastructure. Over the last several decades, however, this Federal role has greatly diminished, with the result that the vast amounts of freight that now move along our roads, rails, and waterways are increasingly choked by a lack of adequate capacity. Economic forecasts indicate that by 2020, freight volumes will be 70 percent greater than they were in 1998. Transportation chokepoints at our major ports, gateways, and trade corridors represent not just congestion and environmental hot spots, they also are a potential trade barrier as threatening as tariffs. Without improvements to the surface transportation network (especially key freight transportation corridors), freight transportation will become less efficient and reliable, hampering the ability of American businesses to compete in the global marketplace.



The Commission believes that the Federal government must return to its historic role of ensuring that the transportation needs of interstate commerce are met. The Commission supports the creation and funding of a national freight transportation program that would, in conjunction with States and metropolitan areas and consistent with a National Freight Transportation Plan, implement highway, rail, and other improvements that eliminate chokepoints and increase throughput.

"The actions of individual States and regional coalitions are not enough to solve the Nation's freight problems. We need strong leadership from the Federal government in the form of strategies, tools, and revenue, and we must make changes to our institutional arrangements."
–Teresa M. Adams, Ph.D., Director of the National Center for Freight and Infrastructure Research and Education at the University of Wisconsin–Madison, at the Commission's Minneapolis field hearing.

A national freight transportation program would afford broad flexibility for States and metropolitan areas to implement highway, rail, and other improvements that are beyond the traditional modal and governmental orientations, consistent with a national freight transportation plan. This new freight program should target efforts to eliminate freight chokepoints and inefficiencies. System-wide improvements targeted to trucking productivity should address incident management, innovative off-peak freight delivery systems, and technology and equipment improvements, in addition to targeted capacity improvement projects. Freight railroad investments are the responsibility of the private sector, but in cases where the social benefits of projects would warrant it, public assistance could be justified. Rail projects could include assistance for strategic national rail bridges where cost of construction exceeds return on private invested capital, assistance with projects that expand the freight rail network (including implementation of train control technology), assistance in freight corridor development, and providing incentives to connect with intermodal centers. As with public highway and transit projects, unnecessary process-related delays affecting the approval of private sector freight rail projects should be eliminated.

Eligible projects would also include development of "green" rail facilities and operations (such as clean dray fleets) and electrification or other technology upgrades (such as biofuel/low emissions locomotives) to replace local dray movements or improve emissions related to rail transportation.

The USDOT would have a major role in developing a National Freight Transportation Plan. The Department would work closely with the full range of public and private stakeholders (including system owners, operators, shippers, logistics firms, and other users), including those involved in establishing national trade policies, and collaborate with State and multi-State authorities to establish performance goals for specific States or multi-State regions. States would, in turn, develop plans to meet the specific performance goals they agreed to accomplish. Freight plans should be closely coordinated with key environmental and energy policies to ensure compatibility.

The development and accomplishment of the State plans would in most cases require multi-State cooperation. Multi-State and State freight planning groups would use stakeholder-provided information to develop a consensus on future investments in major highways, freight railroads, waterways, ports, and intermodal facilities. States

would evaluate the projects in their plans using benefit-cost analysis, looking at the full range of potential solutions to freight improvements. Project funding would be merit-based and grantees would be accountable for meeting freight mobility performance goals, consistent with national environmental and energy goals.

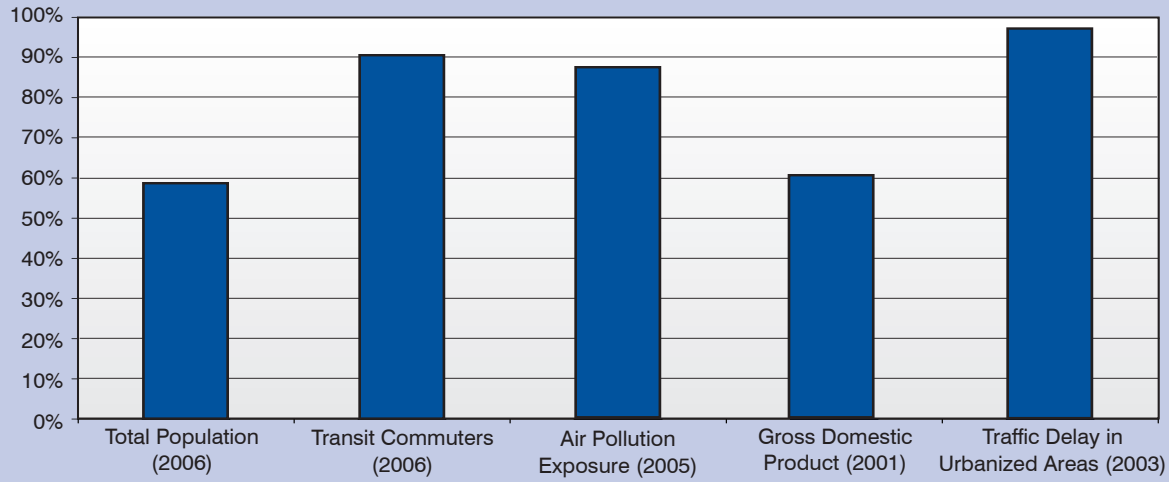
It will be important to standardize public benefit methodology for evaluating and negotiating partnerships involving railroads, States, and local and Federal interests. This will ensure that private entities are not subsidized and, concomitantly, that they are not required to pay for public benefits. Government support for infrastructure projects could actually result in a net reduction of overall needed capacity expansion if private investment is diverted to projects with primarily public benefits. Similarly, publicly funded projects should not require non-economic private investment or service, or supplant or diminish private investment.

Federal policy should comprehensively support improved freight transportation not only through the proposed Federal Freight Transportation Program, but also through eligibility in the Metropolitan Mobility, Intercity Passenger Rail, Environmental, Safe Mobility, and Connecting America programs. There should be broad eligibility across programs for activities that support the aims of each respective program, toward achieving our vision.

Federal participation in individual projects would be 80 percent, with higher participation levels justified based on their national benefits, particularly when benefits fall primarily outside of the region. Apart from demonstrating that proposed projects under this plan are cost-beneficial and justified, additional Federal requirements would be kept to a minimum.

(3) CONGESTION RELIEF: A Program for Improved Metropolitan Mobility. The Nation's largest urban areas generate about 60 percent of the value of U.S. goods and services (see Exhibit 6-9). The Federal government has a significant interest in promoting efficient

Exhibit 6-9. Metropolitan areas over 1 million in population share of U.S. totals for selected characteristics



Large metropolitan areas account for a large share of the total population, economic output, transit commuters, air pollution exposure to people, and traffic delay in the United States.

Source: Metropolitan Transportation Commission



metropolitan mobility that is vital to the productivity of each individual metropolitan area and to the overall productivity of the Nation. **Therefore, the Commission recommends that a distinct program be established to fund projects that reduce congestion in our largest metropolitan areas (of 1 million or more in population).**

Analyses conducted by the Commission indicate that a 20 percent reduction in per-vehicle delay on major urban highways is possible by 2025. The analyses show, however, that this goal cannot be met without a comprehensive set of strategies to manage demand, improve operations, significantly increase transit capacity and ridership, and significantly expand highway capacity. Many of these strategies, especially expanded transit systems and additional highway capacity, will involve substantial capital investment.

Meeting this goal will require broad coordination among agencies at multiple levels of government. The USDOT would set mobility goals for large metropolitan areas by first establishing standardized measures of mobility (e.g., hours of delay per 1000 vehicle miles traveled [VMT]). It would then specify national mobility standards for metropolitan areas. The full range of public and private stakeholders (including system owners, operators, and users) involved in the planning, construction, and operation of regional transportation in such metropolitan areas would be convened to assure consideration of the urban interests in defining national standards. This would help integrate transportation planning into other urban planning activities.

The Commission expects that the Metropolitan Mobility plans in most metropolitan areas will include an increasing emphasis on public transportation, especially electrified railways. Federal transportation policy must more effectively support and encourage the use of public transportation as part of a balanced approach to metropolitan mobility. Traditional bus and rail transit and, where appropriate, intercity passenger rail must be an increasingly important component of metropolitan mobility strategies due to their ability to move large volumes of people into and out of areas that cannot handle more automobiles. Not only is transit an important element of congestion relief strategies, it supports policies to reduce transportation energy consumption, greenhouse gas emissions, and air pollution if sufficient use is demonstrated. The Commission believes that public transportation is essential to meeting our future mobility needs in metropolitan areas. But even with transit playing a much bigger role in the future, the Commission believes that many of the plans will also include significant increases in highway capacity as part of a robust nationwide surface transportation system.

The Commission recognizes that road pricing has great potential to reduce congestion and improve system efficiency because of its ability to better utilize the Nation's existing infrastructure. Congestion pricing provides an incentive for personal travelers to drive during off-peak hours, or to change their mode of transportation for time-sensitive journeys. Such fees are higher in times or places with heavy traffic, and lower in other times and places with light traffic. They are already used at a variety of highways, bridges, and tunnels throughout the United States. Such fees promote the efficient use of existing infrastructure. To the extent that some drivers choose other modes or routes or to travel at less congested times of day rather than pay the fee, congestion is reduced. Congestion fees have a further critical benefit in that they send price signals about the need to add capacity, thus promoting the efficient use of investment dollars in the long run. Mobility goals also should reflect the fact that high traffic urban highways can generate significant revenues from

congestion pricing, requiring less tax-based funding. Metropolitan areas of 1 million or more in population would use these performance standards and national goals to develop their own performance standards, developing Metropolitan Mobility plans to meet these standards in a cost-beneficial manner. The Commission also expects that the major metropolitan areas will be guided by these standards in their accommodation of new economic and population growth.

Funds authorized under the Metropolitan Mobility program would be reserved for urban areas of 1 million or more in population. Although these major metropolitan areas comprise about 60 percent of total U.S. population, they capture over 85 percent of national market share for three critical transportation indicators: traffic congestion, transit ridership, and population exposure to auto-related air pollution (see Exhibit 6-9).

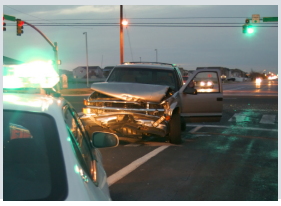
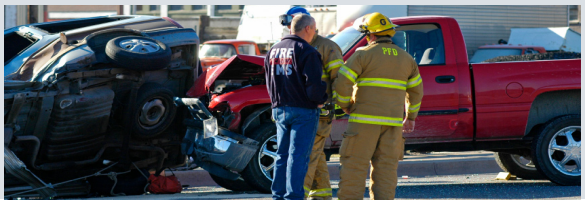
Planning and project selection authority in the Metropolitan Mobility program would be vested in a transportation agency designated by the Governor and leading local elected officials from the metropolitan area. This could be the metropolitan planning organization (MPO), another regional transportation agency, or the state department of transportation. In multi-State metropolitan areas, authority could be vested in a consortium of agencies through interstate compact. The Federal funding share of Metropolitan Mobility projects would be 80 percent of project cost.

We urge the Congress to broadly define "metropolitan area" for the purposes of this program, such as employing the concept of consolidated statistical areas developed by the Office of Management and Budget.

(4) SAVING LIVES: A National Safe Mobility Program. Travelers on the Nation's surface transportation system have a right to expect safe and uniform transportation conditions from coast to coast. The Federal role in establishing safe conditions for travel is well established through agencies such as the Federal Motor Carrier Safety Administration and the National Highway Traffic Safety Administration, and through Federal safety regulation of air, land, and sea travel. It is therefore the Commission's recommendation that a national plan for safety be developed that both informs investments in all other transportation plans and leads to transportation investments and programs undertaken purely for safety purposes.

The scale of human life extinguished by crashes on our Nation's highways every year is enormous. It would be like a city of 43,000 people being annihilated every year, or 90 percent of the population of Chicago being injured. The equivalent of the combined population of Houston, Philadelphia, Phoenix, and San Antonio is involved in police-reported crashes, and this does not include the increasing number of unreported traffic crashes (now estimated to be twice that of the police-reported number).

Currently, highway travel accounts for 94 percent of the fatalities and 99 percent of the injuries on the Nation's surface transportation system. In 2006 42,642 persons were killed and 2,575,000 injured in highway crashes. Significant progress has been made over the last 50 years in improving highway safety. Fatalities rates dropped from 5.3 fatalities per 100 million vehicle miles traveled (VMT) in 1965 to 1.4 fatalities per 100 million VMT as of 2006. But, compared to some other developed countries, a few of which have fatality rates at or below 1.0 fatalities per 100 million VMT, it is clear that the United States still has much room to improve its highway safety. Were the United States presently at a rate of 1.0 fatalities per 100 million VMT, total highway fatalities would be at just over 30,000 per year—still much too high but some 12,600 fewer than we currently sustain as a Nation, year after year.

The USDOT would define safety performance metrics (e.g., fatalities and serious injuries per 100 million VMT) to be used by all Federal, State, and local agencies to measure progress. **The Commission recommends that USDOT establish national safety goals, beginning with an ambitious but reachable goal to cut surface transportation fatalities in half from current levels by 2025.** Specific goals for individual States and metropolitan areas would be established through consultations with safety interests including State and local departments of transportation and other governmental units. States and metropolitan areas would then develop strategies for reaching their specific safety goals, both by incorporating safety projects within the Safe Mobility plan and by including safety features into projects listed in the various Freight Transportation, Metropolitan Mobility, and Rebuilding America plans proposed by the Commission. Projects developed under the Safe Mobility plan would be evaluated to make sure they are cost-beneficial (a practice that already takes place for many safety projects at the State level). Reflecting the importance the Commission assigns to improved safety, it recommends that the Federal share of the funding of qualifying safety projects be 90 percent of the project cost.

Because the users of every transportation mode are affected by injuries and fatalities, the solutions to improving the overall level of transportation safety must be broad and multifaceted. Safety advocates and public officials believe the "three Es" are critical to reducing the number of crashes on the Nation's surface transportation network: engineering, enforcement, and education. The following strategies should be considered in State and local plans:

- Highway improvements to reduce roadway departures, create a safer environment for pedestrians and bicyclists, reduce intersection crashes;
- Stronger enforcement of safety laws including speed limits, seat belt laws, impaired driving, making the maximum use of technology to do so;
- Enhanced adjudication of highway safety laws to impose penalties commensurate with the seriousness of the offenses;
- Enhanced motor carrier safety programs to reduce crashes caused by driver fatigue, unsafe operators, and automobile drivers who do not know how to share the road with large trucks;
- Stronger licensing requirements that take into account age and experience;
- Highly visible public education campaigns to make everyone aware of the severity of highway safety problems;
- Enhanced efforts to deploy technology, equipment and grade separate rights of way to reduce rail-highway grade crossing accidents and reduce trespass incidents, which are the fastest-growing aspect of rail-related accidents and incidents; and
- Research and deployment of new technologies that hold the promise of substantially reducing highway fatalities such as improvements in vehicle safety features, ignition interlocks to prevent persons whose blood alcohol content is too high from starting vehicles, and Vehicle Infrastructure Integration (VII) that could help avoid unsafe movements in traffic while improving traffic flow. For example, as surface transportation networks are embedded with new sensors, they could interact with technologies increasingly built into new automobiles and trucks.

It should be noted that there are some areas of commonality across the national plans that will require coordination. For example, the National Freight Transportation Plan could include opportunities for better tracking and regulating truck traffic, thereby improving the overall level of safety throughout the entire network. The National Freight Transportation Plan could also address deployment of train control technology relevant to safety and capacity on critical corridors which carry passengers and hazardous materials.

(5) CONNECTING AMERICA: A National Access Plan for Smaller Cities and Rural Areas. Virtually all of the Nation's natural wealth and basic food production—the abundance found in its farms, forests, mines, and other resources—is located in rural areas outside of the major metropolitan areas. The Nation has an enormous interest in providing efficient transportation connections to these industries, allowing capital and labor to reach them and products to flow out from them to U.S. and foreign markets and consumers. Over time, vast economic and demographic changes have occurred throughout the Nation that have led to the emergence of new cities, suburbs, and exurban centers. **Updating the basic backbone of the surface transportation system must take into account those urban and rural communities that were not incorporated when the initial rail and highway infrastructure networks were created.** High performing connections for the movement of freight and people are necessary to link the Nation's population and economic centers that currently do not have such connections. Efficient transportation is important for those industries and for people who depend on those industries as well as for the many Americans who live in these areas or travel through them.

The Commission concludes that there are inadequate highway connections to fully develop the Nation's heartland communities. The Commission also concludes that public transportation in rural and small urban areas provides vital access to essential services for individuals who do not have access to automobiles. More than 1,200 transit operators provide service in rural areas and these systems are often the only means of transportation available to older and disabled citizens by which to access critical medical and social services. Many rural areas lack public transportation services entirely. This leaves individuals without access to automobiles with very limited mobility options. It also creates hardships for those unable to drive, such as older adults and persons with disabilities.

In establishing criteria for plans under this program, the USDOT should develop population thresholds that would be suitable for various forms of public transportation. The USDOT would establish standardized measures of access (e.g., all weather access to agricultural and industrial sites by large trucks; mobility by at least one transportation mode available to all citizens) and national accessibility goals. The full range of public and private stakeholders (including system owners, operators, and users) involved in the planning, construction, and operation of regional transportation in rural areas would be convened


to develop these goals and measures. There will be many small metropolitan areas within the heartland areas that will already have benefited from the metropolitan planning done under the provisions of previous Federal transportation legislation. The Commission recommends that the metropolitan planning requirements be retained and that these smaller areas continuously measure themselves against the national mobility standards and accommodate their economic and demographic growth with those performance standards in mind.

Each State would develop State-specific performance goals in terms of these performance measures and develop plans to meet these objectives in an economically justified manner. The Commission recommends that Federal funding of projects in approved plans cover 80 percent of project cost.

(6) INTERCITY PASSENGER RAIL: A Program to Serve High-Growth Corridors by Rail. The growing congestion and unreliability of the air and highway transportation systems have become issues of major concern to the Federal government and the Nation. The USDOT has responded with a Congestion Initiative for highway travel and is funding major improvements in the air traffic control and airport system. Along the Northeast Corridor and in some West Coast markets, however, Amtrak has demonstrated that fast, frequent, and reliable rail service can offer competitive efficiencies in congested passenger travel markets that can significantly reduce pressure on the other modes.

Passenger rail transportation is a key component of the Commission's vision for the future, and the Nation should pursue the development of a fast and reliable rail passenger network. The Commission believes that Intercity Passenger Rail is a critical missing link in the Nation's surface transportation system. Over the past 50 years, passenger rail lines have shrunk dramatically and what has been retained is in need of improvement. Exhibit 4-21 shows a potential 2050 intercity passenger rail network. Investment in intercity passenger rail could also help meet important national energy and environmental goals by shifting travel to trains, which consume 17 percent less energy per passenger mile than air carriers and 21 percent less energy per passenger mile than automobiles.

The Commission envisions the establishment of an intercity passenger rail network to provide reliable and frequent passenger service, comparable to world-class systems in other countries. This network would focus on regional and high-speed corridors connecting dense, congested cities within 500 miles of each other. The USDOT would coordinate the development of State and regional Intercity Passenger Rail plans. These plans would be based on benefit-cost analyses that include both the user and non-user benefits of passenger rail. Track access for passenger rail service, and the cost of present and future capacity requirements, would be negotiated between freight and passenger rail interests.

The key performance measures for the system would be reliable on-time performance, congestion

mitigation, safety and environmental benefits, and reduced energy use. Specific regional goals would be established through consultations between State and local authorities, Amtrak, and, critically, the freight railroads who own almost all of the rail system.

The Commission supports policy options that permit passenger trains to achieve their full potential concerning speed, frequency of service, and on-time performance and that assures that the freight rail industry can provide service required to meet its own growth in demand. Outside the Northeast Corridor, passenger rail depends on the freight system for access to track capacity, but freight rail capacity is limited and freight rail capacity needs are growing. Investment in a robust passenger rail system in the United States will need to be appropriately scoped to ensure that performance criteria on joint-use lines can be achieved, that passenger rail service providers pay for their capacity on freight rail lines, that investments to support capacity and performance requirements are made for both passenger and freight service, and that rights-of-way can be developed or expanded to allow for separate passenger and freight operations as passenger and freight demands grow.

The first step in resolving the rail infrastructure capacity crunch is to address problems occurring in specific corridors. The public and private sectors must come together to create these solutions. The USDOT should assure that State and regional plans are coordinated and complement each other. The Intercity Passenger Rail Program should be funded on a cost-to-complete basis with an 80 percent Federal share, primarily for capital costs.

(7) ENVIRONMENTAL STEWARDSHIP: A Transportation Investment Program to Support a Healthy Environment. The relationship of transportation to the environment has been a source of national concern for more than half a century. Roads and the vehicles that use them can have adverse effects on air and water quality, noise, undeveloped land, community structures, and many other natural and human resources that influence our quality of life. These impacts usually fall on people and places that are beyond the boundaries of the transportation facility, and can even have national or global implications. It is important for the transportation sector to minimize its impacts on the natural environment.

The Commission believes that an Environmental Stewardship Program should be established and authorized at a level equivalent to 7 percent of the total funding for the Federal surface transportation program. This percentage constitutes approximately a 2 percentage point increase over the current share of Federal funding devoted to these types of purposes, and is recommended because of the broader scope of activities that would be included in this program, as described below. This consolidated program would replace several existing environmental programs, providing more flexibility to States in their efforts to mitigate the environmental impacts of transportation.

These program funds would be distributed to the States on a per-capita basis and would be eligible for the following purposes, with a Federal share of up to 80 percent of project costs. At least 10 percent of the program funding by State would be required to be spent on each of the following four sets of purposes, leaving the remaining 60 percent for flexible State investment:

- Air Quality: Eligible projects would smooth traffic flow, mitigate vehicular congestion related to rail crossing, encourage use of intermodal freight options, encourage alternative commute options such as

carpooling and transit, scrap older vehicles, and encourage more energy-efficient construction and lighting materials in the transportation system, to reduce carbon dioxide and other greenhouse gas emissions.

- Vehicle Retrofit: Stimulate retrofitting of existing diesel vehicles and equipment (trucks, buses, and locomotives) as a means of reducing pollutants caused by older equipment, e.g., pre-1998 vehicles. Incentive models include the $1 billion trade corridor mitigation program enacted as part of California's 2006 transportation bond measure.
- Transportation Enhancements: Continue dedication of funding for actions that would mitigate the impact of transportation activities on communities. This would build on the existing Transportation Enhancement Program, with a tighter focus on transportation features.
- Programmatic Mitigation: In addition to specific enhancement projects, the Commission also recommends consideration of more programmatic approaches, such as banking both money and land to preserve endangered habitat and other open space. Models include an $850 million program in San Diego County's 2004 transportation sales tax measure.

The Commission also supports Federal tax incentives for early deployment of next-generation, cleaner-burning and more fuel-efficient vehicles.

(8) ENERGY SECURITY: A Program to Accelerate the Development of Environmentally-Friendly Replacement Fuels. Energy has become a critical transportation issue. The Nation's mobility is largely dependent on gasoline and diesel fuel, with transportation accounting for two-thirds of U.S. petroleum use. Price increases in gasoline and diesel over the last several years have had major impacts on the budgets of American industries and families, inflation, and economic growth. Projections indicate that growing world demand for fuel and dwindling petroleum reserves will only exacerbate these problems. The U.S. dependence on unstable areas of the world for some of our petroleum supplies also introduces the risk of economically disruptive oil price shocks and constrains our ability to respond appropriately to national security concerns. The production and consumption of petroleum for transportation purposes is also a leading source of the Nation's output of greenhouse gas emissions. For these reasons, the Federal government has a vital interest in supporting initiatives that cost-effectively reduce the Nation's dependence on petroleum for transportation.

The Commission recommends that a distinct transportation energy research and development program be authorized in conjunction with ongoing research programs of the U.S. Department of Energy to address these goals, at a level of $200 million annually over the next decade. For transportation to make a significant contribution to reducing energy consumption, policies to that end cannot be marginal, but instead must be basic to mobility. Therefore, the Commission recommends the development of a

national research program and commitment to accomplish this end.

In its 2004 report, the National Commission on Energy Policy recommended a doubling of Federal funding for energy research and development between 2005 and 2010. According to that Commission, Federal spending on transportation-related energy research was $178 million in 2004. In evaluating long-term alternatives to gasoline, the panel identified hydrogen as a replacement by the year 2050, but cautioned that "efforts to speed deployment of a hydrogen transportation system should not displace other activities that can deliver significant results in the next twenty years."

The Commission recognizes that the evolution of energy security for the U.S. transportation industry will require a true public-private partnership, one that provides incentives for the private sector to accelerate the development of widely distributed infrastructure for alternative fuels and for the incorporation of multi-use elements in new developments and land use planning. The Commission recommends that Congress establish an accelerated tax credit program and a revolving loan program to encourage early investment in such facilities and opportunities. Accelerated tax credits could also be made available to encourage the early transition of fleets and motor power away from dependence on petroleum-based fuels.

(9) FEDERAL LANDS: A Program for Providing Public Access. Of the 2.3 billion acres in the United States, the Federal government has title to about 650 million acres (or about 30 percent of the total area of the United States). **The Commission believes the Federal government should continue to be responsible for transportation access to this Federal property.**

Although Federal lands are largely located in rural areas, urban growth is constantly expanding

The National Commission on Energy Policy, a 20-member panel funded through the William and Flora Hewlett Foundation and its partners, developed a blueprint for meeting the Nation's long-term energy needs. *Ending the Energy Stalemate: A Bipartisan Strategy to Meet America's Energy Challenges* was issued in December 2004, while public attention was being drawn to the instability of the world's petroleum supply and the need to tackle global climate change. "In this context," the report notes, "the old notion of energy security acquires new dimensions. Reliable access to the energy resources needed to support a healthy economy remains the core imperative, but in the 21st Century, energy security also means reducing the macroeconomic and terrorism vulnerabilities inherent in the current geopolitical distribution of oil supply and demand and coming to grips with the environmental impacts of the current energy system."

The Commission endorsed six broad recommendations:

- **Enhance oil security** by increasing the world's supply of petroleum, reforming vehicle efficiency standards, and providing $3 billion to produce efficient vehicles
- **Reduce the risks of climate change** through a mandatory tradable-permits program to limit greenhouse gas emissions
- **Increase energy efficiency** through new standards for appliances, equipment, and buildings
- **Ensure affordable, reliable energy supplies** through advancements in Natural Gas, Advanced Coal Technologies, and Nuclear Energy
- **Strengthen essential energy systems** by protecting from accidental failure and terrorist attacks
- **Develop future energy technology**, partly by doubling funding for research and development.

closer to these areas. This growth is placing new pressures on natural landscapes, including but not limited to increased demand for recreational activities and energy/alternative energy sources. The growth of domestic and international tourism is also contributing significantly to increased visitation rates on Federal lands. These demands place increasing emphasis on the need for adequate public transportation access. Providing such access requires cross-jurisdictional collaboration and integrated planning with adjoining State and locally owned transportation infrastructure.

The existing Federal Lands Highway Program (FLHP) is administered through partnerships and interagency agreements between FHWA's Office of Federal Lands Highway and Federal Land Management Agencies and Native American Tribal customers. FTA's Alternative Transportation in Parks and Public Lands Program funds transit and non-motorized transportation serving Federal lands. Federal Land Management Agencies include the Bureau of Indian Affairs, U.S. Forest Service, National Park Service, Federal Wildlife Service, Bureau of Public Lands, Military Surface Deployment and Distribution Command, U.S. Army, U.S. Army Corps of Engineers, U.S. Navy, Tennessee Valley Authority, and the Bureau of Reclamation. USDOT would work closely with the Federal Land Management Agencies to develop appropriate performance standards and goals for transportation facilities on Federal lands.

Funding of improvements on Federal lands would be the responsibility of the Federal government and, as such, would be funded with no matching share. To bring the same degree of accountability and transparency to this new program, the USDOT would establish standardized measures of performance, bringing into the process the full range of public and private stakeholders (including system owners, operators, and users) to develop these goals and measures.

(10) RESEARCH, DEVELOPMENT, & TECHNOLOGY: A Coherent Transportation Research Program for the Nation. Research plays an essential role in the development of technology and science. It has made possible much of the progress in transportation over the last century through the development of new materials, production methods, design and planning tools, and data management techniques. The Federal role in transportation research, development, and technology (RD&T) is particularly vital because the Federal government has the resources to undertake and sustain large-scale, high-risk, long-term research that is cost-prohibitive for small private and public sector organizations.

The Federal government is best suited to monitor the vast scope of research activities underway across the Nation and the world, targeting funds to research gaps. As Congress noted in Title 23 of the U.S. Code, "research and development are critical to developing and maintaining a transportation system that meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection." As of the present, however, too much Federally sponsored surface transportation research is undertaken without clearly defined anticipated payoffs. The research efforts that are funded are sometimes redundant with other efforts and the research quality is inconsistent. In many cases, Federal research funds are distributed by political earmarking.

The Commission recommends that dedicated Federal funding of RD&T be provided and that this funding be subject to careful planning and review by the transportation industry. The USDOT should work with the modes, industries, and stakeholders in the Nation's research community, such as the Transportation Research Board and institutions of higher learning, to establish performance measures and goals for a

National RD&T plan. Given the fundamental importance of good performance data and modeling to all of the plans discussed in this report, the Commission recommends that an important goal for research under the National RD&T plan should be to improve the Nation's ability to measure project performance data, including research into improved traffic, safety, environmental, and energy modeling. Improved tools for benefit-cost analysis and other forms of economic analysis for projects would also be another priority.

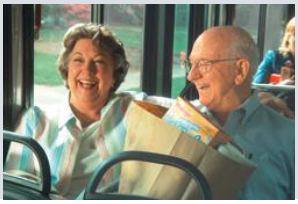
Data collection is necessary to support good transportation decision-making at all levels of government, and the Commission believes that there must be robust, predictable Federal investment in this area. In particular, developing the national strategic plan proposed by the Commission will require extensive data and analytical resources. Data on household travel behavior, freight movement, vehicle use, infrastructure condition, and operational performance will be particularly critical to identifying emerging trends, supporting transportation research, and evaluating the effectiveness of transportation programs, while assuring that future decision makers have the information they need to respond and adapt to changing conditions.

As in the Federal Lands Program, these research activities are a Federal responsibility and would be funded with no matching share.

Interaction Among the Programs

While the 10 programs identified above represent 10 distinct areas of Federal interest, individual projects may contribute to achieving goals in multiple areas, and thus the programs cannot be considered completely independent. The Commission believes that coordination among the planning activities required for each of the programs will be essential. Coordination should begin as plans are developed at the local, State, and regional level, but the USDOT will need to take an active role in consolidating these separate plans into a national strategic plan. Examples of interactions among programs would include the following:

- Federal policy should comprehensively support freight mitigation efforts not only through the proposed Federal freight program, but also through eligibility in the Metropolitan Mobility, Connecting America, Intercity Passenger Rail, Environmental Stewardship, and other programs. There should be broad eligibility across programs for activities that support the aims of each respective program, toward achieving the vision of the most efficient and sustainable transportation system possible.
- Robust State and metropolitan planning will be essential to the success of the national strategic planning process we envision. Accordingly, the Commission recommends continuing the practice of funding these planning activities as a percentage of the total authorized funding for the Federal surface transportation program.
- While the Metropolitan Mobility program focuses on the largest metropolitan areas with populations greater than 1 million, it is expected that States would develop comparable mobility plans for smaller urbanized areas in cooperation with the MPOs of these areas. Funding for improving connectivity within smaller urbanized areas would be available through the Connecting America Program. States with metropolitan areas over 200,000 that are not encompassed within the definition of major metropolitan areas would be required to annually measure and report on the extent to which these areas

comply with the performance standards developed for the major metropolitan areas. This would allow emerging patterns of congestion to be detected well before the areas grow beyond a population of 1 million.

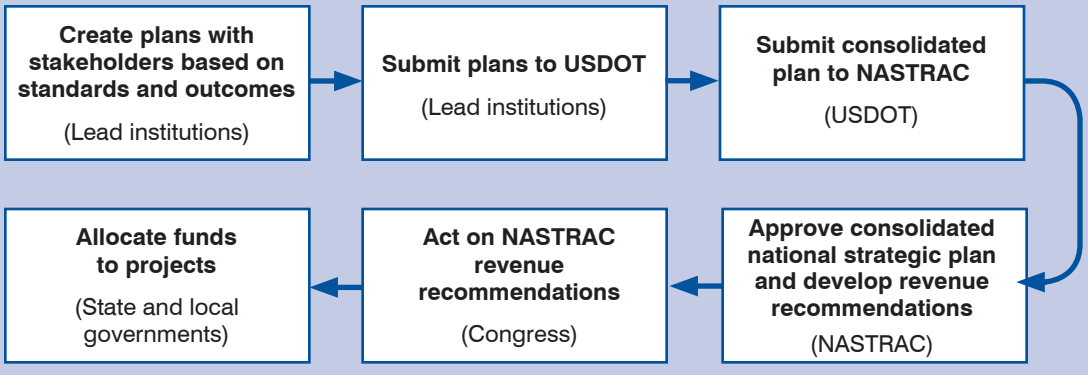
- Improving safety performance would be an overarching goal for all the programs and would not be limited to the National Safe Mobility program. For example, the Metropolitan Mobility and Connecting America programs could improve the overall level of safety in different-sized communities. The National Freight Transportation Plan could address deployment of train control technology relevant to safety and capacity on critical corridors that carry passengers and hazardous materials.
- The projects identified under the Intercity Passenger Rail program would likely be a component of the Metropolitan Mobility plans for the areas they connect; they would also have a strong nexus to the Connecting America, Freight Transportation, and Safe Mobility Plans.
- Although the Federal government will play a more direct role in the development of plans for the Federal Lands and RD&T programs, it is critical that State and local partners and other stakeholders be actively consulted in the projects identified under these programs.

Role of an Independent Commission

The Commission's recommendations for reform of the Federal surface transportation program constitute three legs of a stool. The first leg is accelerating the lengthy process by which transportation projects are delivered, saving both time and money. The second leg is consolidating the numerous investment categories of current law into a more focused, performance-based set of transportation programs related to objectives of genuine national interest. **The third leg involves creating an independent National Surface Transportation Commission (or NASTRAC) to oversee development of a national strategic plan for transportation investment and to recommend appropriate revenue adjustments to the Congress to implement that plan (see Exhibit 6-10).**

There are several models for such an independent commission at both Federal and State levels of government. At the Federal level, two notable examples are the Base Closure and Realignment Commission (BRAC) and the Postal Regulatory Commission. These two commissions were

Exhibit 6-10. Process Overview: Implementation of a new strategic direction for transportation






created by Congress to de-politicize difficult policy actions—closing military bases and raising postal rates. The Commission heard compelling testimony from representatives of both bodies that these objectives have largely been achieved. At the State level, many States have created transportation commissions independent of the Legislature to oversee statewide transportation planning and project selection. A related State model is the public utility commission, which is typically empowered to regulate rates for electricity, heating, and telephone service independent of direct legislative action.

NASTRAC would build on the success of these other models. Its purpose would be to de-politicize how we make Federal transportation investment decisions, as well as how we choose to pay for them. For example, one explanation for the long periods of inaction in raising the Federal fuel tax during the past few decades is that Congress has not been presented with a clear mission for the Federal transportation program since completion of the Interstate Highway System. The Commission's recommendation for NASTRAC to oversee development of a national strategic plan to guide future Federal investment is intended to cure that deficiency. It is also intended to strengthen public confidence that our tax dollars are being wisely invested, and that those investments will produce not just good projects—but better performance—for our transportation network.

The proposed NASTRAC would have the following structure:

1. Composition—Ten members appointed by the President and confirmed by the Senate. Appointments should be based on technical qualifications, professional standing, and geographical representation. No more than six members should be from the same political party. Commissioners would serve on a part-time basis, meeting periodically, and would be compensated for their time and expenses. The Secretary of Transportation should serve as one of the ten members.
2. Term—Six years, two-term limit, staggered terms.
3. Staff—This Commission would retain its own independent, full-time staff and would be able to hire outside consultants to discharge its duties.
4. Funding—This Commission would be funded from its own charge to system users. This charge, which could be adjusted periodically based on its operational needs, would be incorporated into its overall user fee recommendation to Congress. Congress could not adjust this charge except in so far as Congress would accept or reject the overall user fee rate recommendation. Congress would establish this Commission with an initial appropriation until charges could be implemented and self-sustaining funds could be collected.
5. Congressional Veto—This Commission's revenue recommendations would be sent directly to Congress. The recommendations would then be subject to congressional veto by 2/3-recorded vote of both houses within 60 days of receiving them. If no actions were taken, the recommendations would become law. No amendments would be allowed.

The USDOT would lead the strategic planning process with policy oversight provided by NASTRAC. USDOT would consult with multiple stakeholders in this effort, including state departments of transportation, MPOs, and key private sector interests such as the freight railroads. The role of the NASTRAC in implementing the 10 performance-based investment programs described in the preceding section is as follows:

- Oversight of the USDOT-led process by which performance standards would be set on a national basis for reducing traffic congestion, improving highway safety, and other




performance indicators. The standards would be incorporated into Federal grants to require progress toward achieving those goals.

- Oversight of the USDOT-led process to adopt standards for demonstrating that only economically justified projects that accomplish plan objectives would be eligible for Federal funding.
- Approval of the USDOT-led effort to integrate the various programmatic plans for asset management, freight movement, and other functions into a national strategic plan for surface transportation.
- Recommendation to Congress of the user fee rates and adjustments necessary to fund the Federal share of the national strategic plan.
- Authority to adjust the Federal share for particular activities as an incentive, rewarding States and MPOs that demonstrate creativity and innovation. If States and MPOs exceeded performance objectives, Federal participation rates for future funding would be increased. Conversely, Federal participation rates would be reduced for grantees that fail to meet agreed-upon objectives.
- Adoption of maintenance of effort requirements. Even with increases in Federal funding, a commensurate increase in funding from other levels of government and sources is required and expected. Therefore, maintenance of effort checks would be built into the grants to mitigate the tendency to substitute Federal funds for State and local resources.

This Commission acknowledges that creation of the NASTRAC is one of the most far-reaching of its recommended reforms to the Federal surface transportation program. This Commission is convinced, however, that the crisis confronting the customers of the Nation's transportation system demands a bold departure from past practice. Businesses are frustrated at their inability to move goods efficiently. Commuters feel trapped by growing levels of traffic congestion. Many stakeholders are alarmed about transportation's impact on the environment and community character. Congress itself is undoubtedly troubled by the impression that the Federal program has been overwhelmed by earmarking. The NASTRAC is intended—in addition to its explicit duties described above—to give a voice to these customers in improving the national transportation network on which they so heavily rely.

Relationship to Performance and Accountability

The Commission acknowledges that recommendations that entail performance standards represent a major departure from the current public project delivery processes. Federal programs have evolved into what is now essentially a block grant model, with little accountability for specific outcomes. While considerable work has been done on techniques to measure performance, there are relatively few examples of using performance standards to build into grant relationships accountability for achieving pre-determined levels of performance at the overall program level. **Developing performance standards and integrating them into a performance-driven regimen that would be applicable to all States and metropolitan areas will be a challenge since local conditions are so different, but the rewards will be worth the effort.**

Current programs rarely link project performance to funding, and the economic justification for projects is seldom fully evaluated either before or after projects are implemented. State and local agencies prepare metropolitan area transportation plans, and projects receiving Federal funds go through environmental and design reviews, but




there is little or no accountability for meeting specific performance standards. Transparency in performance targets and achievement can be seen as threatening to governmental units who fear the inevitable ranking of various jurisdictions and believe that rating success by common benchmarks is simplistic and unfair. In addition to making better use of public monies to accomplish critical national objectives, and thus obtain better value for the Nation from existing transportation spending levels, the Commission's recommended approach of performance standards and economic justification would do much to restore public confidence in the transportation decision-making process. In such an environment, Congress and the public would be more amenable to agreeing to invest, whether through taxes or other user fees, to meet the Nation's transportation investment needs.

Federal organizational and grant administration changes. Federal transportation programs have historically focused around modes (FHWA, FTA, FRA, etc.) rather than functional areas (e.g., freight, metropolitan mobility, etc.). Such structures have strength because the agencies build upon the necessary technical competencies but present barriers to the problem-solving that should occur during both the system planning and implementation phases. Implementing agencies, when oriented along functional lines, are more likely to be outcome-oriented. The Commission endorses changes in the structure of the USDOT that would reinforce the functional orientation of the 10 new recommended programs rather than the current modal orientation.

Transition to the New Programs

This report proposes a major restructuring of the Federal surface transportation program. The institutional reforms that the Commission recommends will take some time to be realized, especially the reorganization of the USDOT. The Commission recognizes that performance-based planning would represent a significant departure from current planning processes. However, the Commission envisions the new processes as a substitute for current processes, rather than as an overlay on top of them. The Commission also expects that the design for the new process will build upon lessons learned under the current programs. In the long run, these reforms should greatly improve the delivery process and reduce the time it takes to complete projects, while still respecting the need for thorough planning and public involvement. These programmatic reforms also involve consolidating the highway and transit titles in the U.S. Code, which have been separate for their entire existence.

Given the scope and scale of these changes, the Commission urges Congress to pay particular attention to several transition issues that will need to be addressed in the early phases of implementing its recommendations. These transition issues include:

- Dealing with projects in the development pipeline so these projects can continue to advance in a timely manner.
- Carrying out existing or pending Federal financial commitments under full funding grant agreements in the New Starts transit major capital investments program.
- Authorizing USDOT to obligate Federal funds to a limited number of new projects and activities that are clearly in the national interest, prior to completion of the performance-based planning process to be overseen by NASTRAC.

TRANSPORTATION FOR TOMORROW
National Surface Transportation Policy and Revenue Study Commission